2.3.18. Track File Capacity

2.3.18.1. Purpose

The purpose of this test is to determine the TWS mode track file capacity and to assess the utility of the radar as an aid for SA in a combat environment.

2.3.18.2. General

Most TWS radars have a track file capacity between five and thirty. This number can be found in the contractor documentation and then should be verified while airborne. The only truth data required is to ensure that an adequate number of targets are present within the search volume to saturate the track file. Busy airfields and airways can usually be used to fulfill this requirement. The presence of the right target load can be verified by a radio call to the test area controlling agency. A phone call before the flight can also be used to cut down on radio transmissions and to alleviate confusion as to the desired track density. Often this data point can be obtained while returning to base using the home airfield overhead traffic.

2.3.18.3. Instrumentation

Data cards and an optional voice recorder will be required for this test.

2.3.18.4. Data Required

While in the TWS mode, record the maximum number of tracks displayed during the flight. Record qualitative comments concerning the effect the maximum number of TWS tracks has upon the utility of the radar as an aid to SA in a mission relatable multiple target environment.

2.3.18.5. Procedure

Place the radar in a TWS mode, wide scan angle limit and long range scale. Turn the airplane to look over a large airport or busy airway. Check to see if the TWS mode establishes the maximum number of tracks designed to be available. If a lesser number of tracks are established, call the test area controlling agency and request a count of airplanes over the field or along the airway within the radar search volume. If enough tracks are not present, request a vector to an area with enough tracks to saturate the TWS. Throughout the flight, qualitatively evaluate the utility of the track file capacity for maintenance of air picture SA within the test area.

2.3.18.6. Data Analysis and Presentation

Relate the maximum number of TWS tracks seen at one time to the utility of the TWS mode for maintenance of battlefield SA.

2.3.18.7. Data Cards

A sample data card is presented as card 22.

CARD NUMBER ___ TIME ____ PRIORITY L/M/H

TRACK FILE CAPACITY

[TURN THE AIRPLANE TOWARDS A LARGE AIRPORT OR AIRWAY WITHIN THE SEARCH VOLUME. ESTABLISH THE TWS MODE, WIDE AZIMUTH SCAN LIMIT AND LONG RANGE SCALE. COUNT THE MAXIMUM NUMBER OF TRACKS. IF THE NUMBER OF TRACKS IS LESS THAN DESIGNED, CONTACT ATC FOR A COUNT OVER THE AIRPORT OR AIRWAY. IF NOT ENOUGH TRACKS ARE AIRBORNE, REQUEST A VECTOR TO A HIGH DENSITY AIR TRAFFIC AREA.]

DESIGNED MAXIMUM TRACK FILE CAPACITY_____

MAXIMUM NUMBER OF TRACK FILES SEEN WHILE AIRBORNE_____

[QUALITATIVELY ASSESS THE EFFECT THE MAXIMUM NUMBER OF TRACK FILES SEEN WHILE AIRBORNE HAS UPON THE OPERATOR'S SA IN A HIGH STRESS/TARGET RICH, MISSION RELATABLE ENVIRONMENT.]

EFFECTS:

Card 22: Track File Capacity Data Card